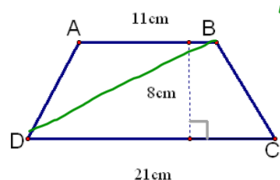
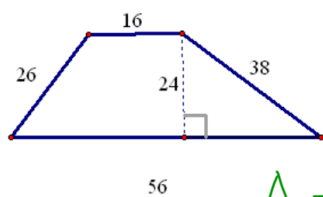


8-6 Area of Trapezoids

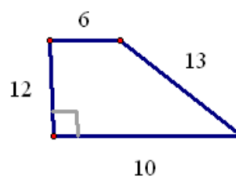


$$\begin{aligned}
 A &= \frac{1}{2}bh + \frac{1}{2}bh \\
 &= \frac{1}{2}21 \cdot 8 + \frac{1}{2}11 \cdot 8 \\
 &= \frac{1}{2}8(21+11) \\
 &= 128 \text{ cm}^2
 \end{aligned}$$

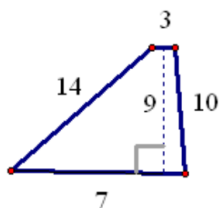
$$A = \frac{1}{2}(b_1 + b_2)h$$



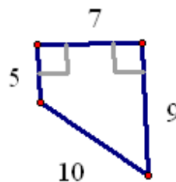
$$\begin{aligned}
 A &= \frac{1}{2}h(b_1 + b_2) \\
 &= \frac{1}{2}24(16 + 56) \\
 &= \frac{1}{2}24 \cdot 72 \\
 A &= 864 \text{ units}^2
 \end{aligned}$$



$$\begin{aligned}
 A &= \frac{1}{2}12(6 + 10) \\
 A &= 96 \text{ units}^2
 \end{aligned}$$



$$\begin{aligned} \frac{1}{2} 9(7+3) \\ \frac{1}{2} 9 \cdot 10 \\ = 45 \text{ units}^2 \end{aligned}$$



$$\begin{aligned} A &= \frac{1}{2} 7(9+5) \\ A &= 49 \text{ units}^2 \end{aligned}$$

$$\begin{aligned} A &= 50 \text{ cm}^2 \\ b_1 &= 7 \text{ cm} \\ b_2 &= 13 \text{ cm} \\ h &= 5 \text{ cm} \end{aligned}$$

$$\begin{aligned} A &= \frac{1}{2} h(b_1 + b_2) \\ 50 &= \frac{1}{2} h(7 + 13) \\ 50 &= \frac{1}{2} h(20) \\ 50 &= 10h \\ 5 &= h \end{aligned}$$

$$\begin{aligned} A &= 12 \text{ cm}^2 \\ b_1 &= 10 \text{ cm} \\ b_2 &= 6 \text{ cm} \\ h &= 1.5 \text{ cm} \end{aligned}$$

$$\begin{aligned} A &= \frac{1}{2} h(b_1 + b_2) \\ 12 &= \frac{1}{2} h(10 + 6) \\ 12 &= \frac{1}{2} h(16) \\ 12 &= 8h \\ 1.5 &= \frac{12}{8} = h \end{aligned}$$

$$A = 39 \text{ cm}^2$$

$$b_1 = 8 \text{ cm}$$

$$b_2 = \underline{5 \text{ cm}}$$

$$h = 6 \text{ cm}$$

$$A = \frac{1}{2} h (b_1 + b_2)$$

$$39 = \frac{1}{2} (6) (8 + b_2)$$

$$\frac{39}{3} = \frac{3(8 + b_2)}{3}$$

$$13 = 8 + b_2$$

$$5 = b_2$$

DO:

$$A = 84 \text{ cm}^2$$

$$b_1 = 9 \text{ cm}$$

$$b_2 = 15 \text{ cm}$$

$$h =$$

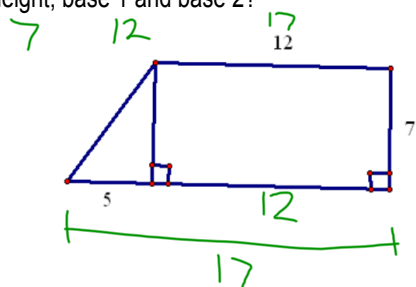
$$84 = \frac{1}{2} h (9 + 15)$$

$$84 = \frac{12h}{2}$$

$$84 = 6h$$

$$14 = h$$

Given the trapezoid, what is the height, base 1 and base 2?



HW

p448-449

1-13, 18-22